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MAY 6, 1873.

Dr. CARSON, Vice-President, in the chair.

Thirty-two members present.

Double Flowers in Epigæa repens.—Mr. THOMAS MEEHAN observed, that on several occasions, during the few past years, it had been noticed among the *variations in nature*, that the tendency to produce double flower was, by no means, the special prerogative of the florist to produce. Many of our commonest wild flower, which no one would think of cultivating, had double forms in cultivation which were no doubt originally found wild. Thus we had a double *Ranunculus acris*, *Ranunculus bulbosus*, *R. Ficaria*, *R. repens*, and some others. He had himself placed on record the discovery, wild on the Wissahickon, of a double *Saxifraga Virginica*, and this season a fellow member, Dr. James Darrach, had found, in the same location, a double Trailing Arbutus, *Epigæa repens.* There were, in plants, two methods by which a double flower is produced. The axis of a flower was simply a branch very much retarded in its development, and generally there were, on this arrested branch, many nodes between the series forming the calyx or corolla, and the regular stamens and carpels, which were entirely suppressed. But when a double flower was produced, sometimes these usually suppressed nodes would become developed, in which case there was a great increase in the number of petals, without any disturbance in the staminal characters. But at other times there was no disturbance of the normal character of the axis. The stamens themselves merely became petaloid. This was the case in the *Epigæa*, now found by Dr. Darrach. He was not alone in calling attention to these facts in wild flowers. Dr. Gray and others had recorded instances in the *American Naturalist.*

Influence of Cohesion on Change of Characters in Orchideæ.—Mr. M. also said that in the early part of the winter he had exhibited some flowers of *Phaius Tankervillæ*, in which, by the mere cohesion of one of the dorsal petals with the column, a flower differing very much from the general condition was the result; and that it was evidently the direction of nutrition towards the production of a spur, which resulted in the formation of the labellate petal which gave such a distinguishing character to the general orchideæ flower. At that time he had observed that very early in the morning a very small secretion, from what appeared to be incipient glands, might be seen at the exterior base of the outer petals, and that there was no improbability that in time an orchid would be produced, which would have, from these glands, three spurs and their petals, giving the flower the appearance of an *Aquilegia.* Since that time Dr. Maxwell T. Masters, in the April 12th issue of the *Gardener's Chronicle*, notices the receipt of a *Phaius Wallichii* in which there had been produced three spurs and regular petals, looking, Dr. M. says, rather like those of a gladiolus than of an orchid. This confirmation of the views, suggested in the observations referred to, indicate that we were on the right track as regards idea of the floral structure.

Movements in Stigmatic Lobes.—Mr. MEEHAN further remarked that at former meetings he had brought to the attention of the Academy, that though it was long known that the flattened lobes of the pistil in *Mimulus* would close on being touched, as rapidly and in the same manner as the leaves of the *Dionæa muscipula*, it did not seem to have been noted that the power was possessed by many other genera of *Scrophulariacæa*, and he had recently recorded the fact that the power extended to *Bignonia* in an allied natural order. It would be as well to call the attention of the Academy to the fact that in the current number of the *London Journal of Botany*, Mr. Kitchener has a note on the movement in *Mimulus*, regarding it as an arrangement to render the fertilization of the plant, by its own pollen, highly improbable. If it were not for the closing of the lobes on the entrance of an insect, pollen would be deposited when the insect makes its exit; but the closing of the lobes on the entrance prevents this. On the other hand, when the pollen covered insect enters another flower and touches the open pistil it receives and closes on foreign pollen. As the common trumpet flower of our gardens, *Bignonia radicans*, is easy of access, he hoped that the members interested in this branch of science would make personal observations the coming season.

MAY 13.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-eight members present.

The following paper was presented for publication:—

"Observations on Nests of Sayornis fuscus." By Thos. G. Gentry.

Prof. COPE exhibited and described some extinct turtles from the Eocene strata of Wyoming. One of these was named

TRIONYX HETEROGLYPTUS, Cope.

Carapace broad, flat, concavely truncate behind. Free portion of costal bones short. The last pair of costal bones are in con-